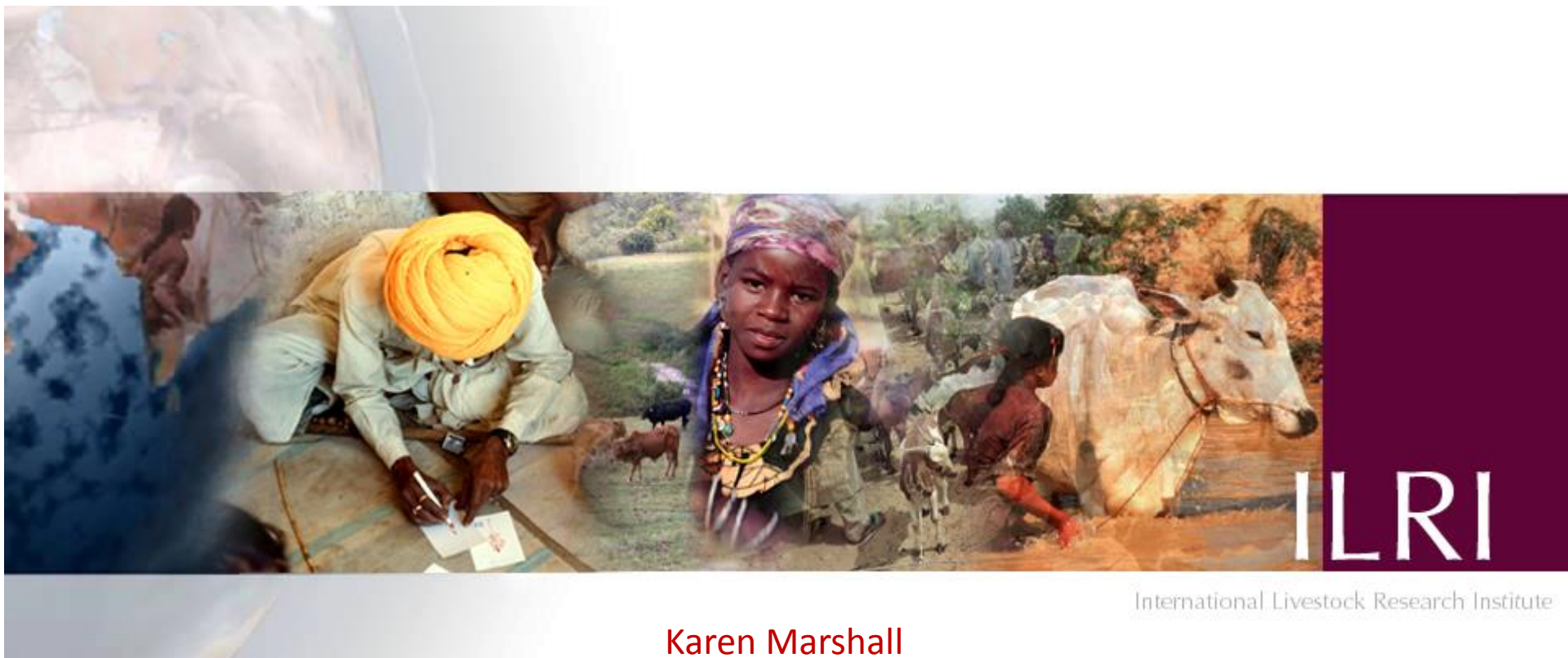


Newly funded project

# “Uganda pig genetics”



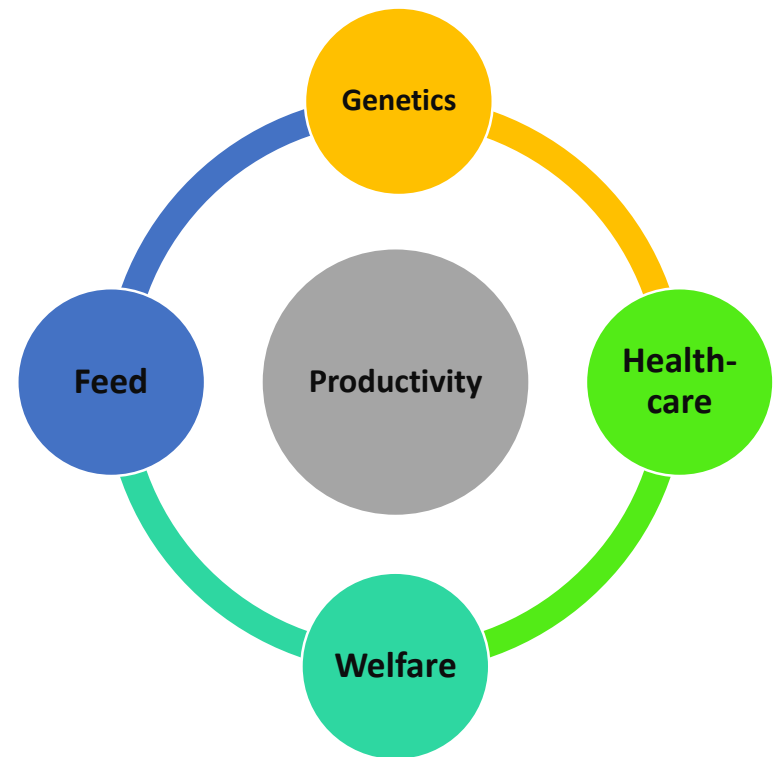
Karen Marshall

Stakeholders Meeting on Ugandan Pigs, Hoima, Uganda, 10-11 July  
2017

# Background – motivation to project

During the varied assessments, many stakeholders expressed interest in:

- an evidence base on the most appropriate pig breed-type for the local production systems / environments
- access to breeding pigs of known breed-type, high genetic quality



# Background – current state of knowledge

- Limited data on pig productivity exists

Organisation	Type of data - 2015
NAGRC&DB	Data on Camborough herd for last 2-3 years. Herd comprises 30-40 sows (Camborough 22), 6 boars (PIC terminal sire line).
KCCA	Data on LW/LR crossbreeding herd for last 2 years. Herd comprises 20 sows (LW), 4 boars (LR)

- No data on local breeds; no data on pig performance on-farm
- No data on the trade-offs of keeping different pig breeds / pig-systems

# This project

## Sustainable intensification of the pig value chain in Uganda – for improved rural livelihoods and enhanced food security

Partners	<ul style="list-style-type: none"><li>➤ International Livestock Research Institute</li><li>➤ National Animal Genetic Resources Centre &amp; Databank (NAGRC &amp; DB), Uganda</li><li>➤ University of Natural Resources and Life Sciences (BOKU), Austria</li></ul>
Duration	July 2017 to July 2020
Donors	Austrian Development Agency Livestock CRP
Objective	To increase the productivity and profitability of the Ugandan smallholder pig enterprises, through use of the most appropriate pig genetics

## Activity 1: Evaluate the profitability and productivity of different household pig production systems in Uganda

- To create an evidence base for informed decision making by pig keepers on pig breeds / systems to invest in
- Approach:
  - Monitoring 150+ pig keeping households, 400+ pigs, for at-least a 14 month period
  - Considering:
    - productivity following through to slaughter;
    - profit & cost:benefit to household;
    - gendered aspects - on labour, decision making, who pays costs / controls benefits
  - Pig breed-type assignment by a genomic approach



# Example results trade-off analysis: dairy cattle Senegal



Breed Management level (*)	Zebu *	Zebu **	Zebu x Guzerat *	Zebu x Guzerat **	Zebu x Bos Taurus **	Zebu x Bos Taurus ***	High Bos Taurus ****
<b>Breed preference</b> - male / female famers	+/+	+/+	+/+	+/+	+++ / +++	+++ / +++	++ / +
<b>Productivity</b> (liters milk / annum)	175	568	223	640	508	1,315	1,422
<b>Profitability</b> (CFA / annum/cow)	60,235	142,041	65,384	186,670	236,028	479,525	407,441
<b>Environmental sustainability</b> (GHG EI, kg CO <sub>2</sub> eq/kg protein)	338	190	307	165	188	110	108
<b>Food quality</b> (milk protein/fat)	For milk protein – no difference between breed-types For milk fat – variation between breed-types, but changing trend on parity						
<b>Food safety</b> (aflatoxins)	++++	+++	++++	+++	+++	++	+
<b>Equality: Gendered impacts</b>	Women control income from milk sale in a majority of households				Women control income from milk sale in fewer households		



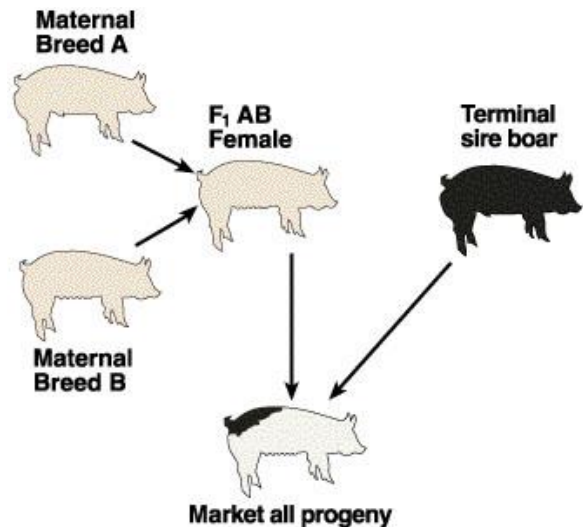
## Activity 2: Design, with stakeholders, a genetic improvement strategy for the smallhold pig sector

- To produce pigs which meet the needs and preferences of their women and men keepers and other value chain actors, as well as market demand



# Approach to breeding program design

- 1) derive the breeding goal;
- 2) assess the state of current breeding strategies, capacities and infrastructure;
- 3) prepare the breeding plan, with attention to supportive institutional arrangements, public and private sector involvement, and sustainability;
- 4) plan implementation and ongoing monitoring and refinement



**Stakeholder  
owned and driven**



## Activity 3: Develop, with stakeholders, a scheme for registration of suppliers of pigs of known breed-type

- To allow pig-keepers to confidently access the breed-types they desire
- Approach:
  - Registration scheme will be developed and pilot-tested
  - Led by **NAGRC&DB** - mandated via the Animal Breeding Act of 2001 to register and certify all animal breeds, breeders and breeding centers



## **Activity 4:** Capacity building of women and men pig keepers, as well as other stakeholders

### ➤ Capacity building activities:

- Training workshops for smallhold pig keepers and other stakeholder such as village boar keepers, artificial insemination service providers, and extension agents
- Project students

### ➤ Further dissemination activities:

- Media, including newspaper and radio
- The existing multi-stakeholder platforms – local & national
- Policy briefs and discussions.

The most appropriate pig  
genetics for improved  
productivity and profitability  
of the Ugandan smallholder  
pig enterprises



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